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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,670	09/30/2003	Ludwig Busam	CM2701Q	5014

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EXAMINER	
HAND, MELANIE JO	
ART UNIT	**PAPER NUMBER**
3761	

MAIL DATE	DELIVERY MODE
07/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/674,670	BUSAM ET AL.	
	Examiner	Art Unit	
	MELANIE J. HAND	3761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 21-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,21-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/18/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed April 8, 2008 have been fully considered but they are not persuasive. With respect to arguments regarding independent claims 1 and 21: Applicant argues that Funk teaches fixing hydrogel particles on fibers, not grafting as required in claims and 21. This is not persuasive the action of chemically grafting as understood by the disclosure is an inevitable result of the radical polymerization recited in claims 1 and 21 and taught by Funk. Further, the “fixing” to which applicant refers in the Funk refernce refers to fixing hydrogel particles within a core and is not relevant to the polymerization reaction itself. Therefore, since Funk teaches radical polymerization, Funk teaches chemical grafting of parts of the hydrogel onto the fiber. Applicant argues that Funk does not disclose agent molecules. Funk discloses agent molecules in the form of redox catalysts, specifically an iron (II) salt that acts as a polymerization initiator (Col. 11, lines 55,56, Col. 12, lines 36-42), which is identical to an agent molecule substance disclosed by applicant and meets the definition of agent molecule as it is understood from applicant’s disclosure. Applicant further argues that because Funk does not disclose chemical grafting of the instant hydrophilic monomer or polymer or an agent molecule, that examiner's argument of inherency regarding the claimed range for surface tension is improper. Since Funk does disclose chemical grafting and an agent molecule as claimed, the argument of inherency would have been valid but is withdrawn in light of the rejection under 35 U.S.C. 103 instead of 35 U.S.C. 102 or 35 U.S.C. 103. The rejections of independent claims 1 and 21 under 35 U.S.C. 103 as unpatentable over Funk are maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-9, 11 and 21-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funk et al (U.S. Patent No. 7,144,957).

With respect to **claim 1:** Funk teaches an absorbent article comprising a substantially liquid pervious topsheet, a substantially liquid impervious backsheet and an absorbent core between said topsheet and said backsheet, wherein said absorbent article comprises a nonwoven fabric (Col. 16, lines 49-57), wherein said nonwoven fabric: a) comprises a plurality of fibers (Col. 16, line 57); b) inherently has a surface tension of at least 65 mN/m when being wetted with saline solution; c) inherently has a liquid strike through time of less than 5 s for a fifth gush of liquid; and d) comprises polymers comprising hydrophilic monomer molecules, a reaction product of a radical polymerization initiator molecules chemically grafted to the surface of at least a part of said plurality of fibers comprised by said nonwoven fabric, and agent molecules, wherein the

amount of radical polymerization initiator molecules (0.01-5 wt% based upon weight of monomer) is less than 2 wt% of the monomer molecules and at least three times the amount of the agent molecules (0.05-2.0 wt% based upon weight of monomer). (Col. 12, lines 32-35) Funk teaches the presence of said polymers in the absorbent core along with the claimed hydrophilic fibers as recited in the claims. Thus, while Funk does not explicitly teach a liquid strikethrough time for a fifth gush of fluid or a surface tension within the respective claimed ranges, it would be obvious to one of ordinary skill in the art to modify the article of Funk so as to exhibit a liquid strikethrough time after a fifth gush of fluid and a surface tension within the claimed range with a reasonable expectation of success to preserve the desired fluid management properties of the topsheet material.

Funk does not teach that the topsheet comprises said nonwoven fabric. However, since the topsheet is liquid pervious, a nonwoven fabric comprising hydrophilic fibers and having a liquid strike through time of less than five seconds seeks to solve a similar problem in the art as the topsheet (i.e. manage liquid insults quickly and effectively by transporting the liquid to the absorbent core), it would be obvious to one of ordinary skill in the art to modify the device of Funk such that the topsheet is comprised of said nonwoven fabric with a reasonable expectation of success to obtain the desired fluid management properties.

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With respect to **claim 2:** The nonwoven fabric comprises at least a first plurality of fibers (i.e. those coated with the swelling polymer) and a second plurality of fibers (i.e. hydrophilic fibers), wherein said first plurality of fibers is different from said second plurality of fibers. (Col. 17, line 65 - Col. 18, line 6, Col. 18, lines 59-62)

With respect to **claim 3:** Only said first plurality of fibers has hydrophilic polymers grafted to their surface. (Col. 18, lines 59-62)

With respect to **claim 4:** Funk teaches the presence of said polymers in the absorbent core along with the claimed hydrophilic fibers as recited in the claims. Thus, while Funk does not explicitly teach that the strike through time after said first and said fifth gush of said nonwoven fabric does not decrease more than 5% after storage of said absorbent article for at least 10 weeks, it would be obvious to one of ordinary skill in the art to modify the article of Funk such that the strike through time after said first and said fifth gush of said nonwoven fabric does not decrease more than 5% after storage of said absorbent article for at least 10 weeks with a reasonable expectation of success to preserve the desired fluid management properties of the topsheet material.

With respect to **claim 5:** The polymerized hydrophilic monomer taught by Funk comprises a molecule comprising at least one unsaturated double bond. (Col. 9, lines 17-19)

With respect to **claim 6:** The polymerized hydrophilic monomer taught by Funk comprises a molecule comprising a group (i.e. carboxyl), which is able to react with an acid or base to form a salt. (Col. 9, lines 17-19)

With respect to **claim 7:** The polymerized hydrophilic monomer taught by Funk comprises acrylic acid. (Col. 9, lines 17-19)

With respect to **claim 8:** The polymers add at least on said first plurality of fibers from 0.3 wt% to 10 wt%. This rejection is based on Funk's teaching of the presence of the highly swellable hydrogel in the absorbent core of 10-100 wt % based upon the weight of the core, therefore the add-on weight percentage based upon the weight of the fiber will also be 10-100 wt% as the polymer is considered herein to be distributed evenly. This range taught by Funk overlaps and renders the claimed range obvious. (Col. 19, lines 51-53)

With respect to **claim 9:** The polymers are added to said first and said second plurality of fibers in a weight percent range of 0.3 wt% to 10 wt%. This rejection is based on Funk's teaching of the presence of the highly swellable hydrogel in the absorbent core of 10-100 wt % based upon the weight of the core, which contains the first and second pluralities of fibers. This range overlaps the claimed range set forth in claim 9. (Col. 19, lines 51-53)

With respect to **claim 11:** The absorbent core is provided with a core wrap material (i.e. tissue), but Funk does not teach that the wrap material comprises said nonwoven fabric. However, since Funk teaches tissue paper, which is a hydrophilic nonwoven material and the tissue layer seeks to solve a similar problem in the art as the nonwoven fabric, it would be obvious to one of ordinary skill in the art to modify the device of Funk such that the core wrap is comprised of said nonwoven fabric with a reasonable expectation of success to preserve the desired interaction with fluids coming in contact with the core.

With respect to **claim 21:** Funk teaches an absorbent article comprising a substantially liquid pervious topsheet, a substantially liquid impervious backsheet and an absorbent core between said topsheet and said backsheet, wherein said absorbent core is provided with a core wrap

material. (Col. 16, lines 49-57), The said nonwoven fabric: a) comprises a plurality of fibers (Col. 16, line 57); b) inherently has a surface tension of at least 65 mN/m when being wetted with saline solution; c) inherently has a liquid strike through time of less than 5 s for a fifth gush of liquid; and d) comprises polymers comprising hydrophilic monomer molecules, a reaction product of a radical polymerization initiator molecules chemically grafted to the surface of at least a part of said plurality of fibers comprised by said nonwoven fabric, and agent molecules, wherein the amount of radical polymerization initiator molecules (0.01-5 wt% based upon weight of monomer) is less than 2 wt% of the monomer molecules and at least three times the amount of the agent molecules (0.05-2.0 wt% based upon weight of monomer). (Col. 12, lines 32-35) Funk teaches the presence of said polymers in the absorbent core along with the claimed hydrophilic fibers as recited in the claims. Thus, while Funk does not explicitly teach a liquid strikethrough time for a fifth gush of fluid or a surface tension within the respective claimed ranges, it would be obvious to one of ordinary skill in the art to modify the article of Funk so as to exhibit a liquid strikethrough time after a fifth gush of fluid and a surface tension within the claimed range with a reasonable expectation of success to preserve the desired fluid management properties of the topsheet material.

The absorbent core of Funk is provided with a core wrap material (i.e. tissue), but Funk does not teach that the wrap material comprises said nonwoven fabric. However, since Funk teaches tissue paper, which is a hydrophilic nonwoven material and the tissue layer seeks to solve a similar problem in the art as the nonwoven fabric, it would be obvious to one of ordinary skill in the art to modify the device of Funk such that the core wrap material is comprised of said nonwoven fabric with a reasonable expectation of success success to preserve the desired interaction with fluids coming in contact with the core.

With respect to **claim 22:** The nonwoven fabric comprises at least a first plurality of fibers (i.e. those coated with the swelling polymer) and a second plurality of fibers (i.e. hydrophilic fibers), wherein said first plurality of fibers is different from said second plurality of fibers. (Col. 17, line 65 - Col. 18, line 6, Col. 18, lines 59-62)

With respect to **claim 23:** Only said first plurality of fibers has hydrophilic polymers grafted to their surface. (Col. 18, lines 59-62)

With respect to **claim 24:** Funk teaches the presence of said polymers in the absorbent core along with the claimed hydrophilic fibers as recited in the claims. Thus, while Funk does not explicitly teach that the strike through time after said first and said fifth gush of said nonwoven fabric does not decrease more than 5% after storage of said absorbent article for at least 10 weeks, it would be obvious to one of ordinary skill in the art to modify the article of Funk such that the strike through time after said first and said fifth gush of said nonwoven fabric does not decrease more than 5% after storage of said absorbent article for at least 10 weeks with a reasonable expectation of success to preserve the desired fluid management properties of the topsheet material.

With respect to **claim 25:** The polymerized hydrophilic monomer taught by Funk comprises a molecule comprising at least one unsaturated double bond. (Col. 9, lines 17-19)

With respect to **claim 26:** The polymerized hydrophilic monomer taught by Funk comprises a molecule comprising a group (i.e. carboxyl), which is able to react with an acid or base to form a salt. (Col. 9, lines 17-19)

With respect to **claim 27:** The polymerized hydrophilic monomer taught by Funk comprises acrylic acid. (Col. 9, lines 17-19)

With respect to **claim 28:** The polymers add at least on said first plurality of fibers from 0.3 wt% to 10 wt%. This rejection is based on Funk's teaching of the presence of the highly swellable hydrogel in the absorbent core of 10-100 wt % based upon the weight of the core, therefore the add-on weight percentage based upon the weight of the fiber will also be 10-100 wt% as the polymer is considered herein to be distributed evenly. This range taught by Funk overlaps and renders the claimed range obvious. (Col. 19, lines 51-53)

With respect to **claim 29:** The polymers are added to said first and said second plurality of fibers in a weight percent range of 0.3 wt% to 10 wt%. This rejection is based on Funk's teaching of the presence of the highly swellable hydrogel in the absorbent core of 10-100 wt % based upon the weight of the core, which contains the first and second pluralities of fibers. This range taught by Funk overlaps and renders the claimed range obvious. (Col. 19, lines 51-53)

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELANIE J. HAND whose telephone number is (571)272-6464. The examiner can normally be reached on Mon-Thurs 8:00-5:30, alternate Fridays 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tatyana Zalukaeva can be reached on 571-272-1115. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Melanie J Hand/
Examiner, Art Unit 3761

/Tatyana Zalukaeva/
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